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EPA Superfund
Record of Decision:

HRANICA LANDFILL
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BUFFALO TOWNSHIP, PA
05/26/1994

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EPA/ROD/R03-94/178
July 1994

EPA Superfund
Record of Decision:

Hranica Landfill Site, PA

RECORD OF DECISION
HRANICA LANDFILL SITE

DECLARATION

SITE NAME AND LOCATION

Hranica Landfill Site
Buffalo Township
Butler County, Pennsylvania
Operable Unit #2

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for Operable Unit #2 (OU2) at the Hranica Landfill Site (the Site) in Buffalo Township, Butler County, Pennsylvania, developed and chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, (CERCLA) 42 U.S.C. [Para][Para] 9601 et seq., and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This decision is based on the Administrative Record for this Site.

The Commonwealth of Pennsylvania, Department of Environmental Resources has not concurred with the Record of Decision (ROD).

ASSESSMENT OF THE SITE

The determination has been made that no further Remedial Action is necessary at this Site. Therefore, the Site now qualifies for inclusion in the "sites awaiting deletion" subcategory of the Construction Completion category of the National Priorities List. As specified in Section VI Summary of Site Risks, there are no site-related risks that warrant further remedial action of any kind.

DESCRIPTION OF THE REMEDY

This Operable Unit is the second and final operable unit for the Site and it addresses ground water contamination. The selected alternative for the ground water at the Site is No Action. Under this alternative, no further Remedial Action will be taken at this Site. Ground water will be monitored pursuant to the remedial action selected in the ROD for the first Operable Unit.

STATUTORY DETERMINATIONS

Pursuant to duly delegated authority, I hereby determine, pursuant to Section 106 of CERCLA, 42 U.S.C. [Para] 9606, that the selected alternative is protective of human health and the environment. Although no remedial action will be taken, ground water quality at and in the vicinity of the Site will be reviewed within five years in accordance with Section 121(c) of CERCLA, 42 U.S.C. [Para] 9621(c) to ensure that human health and the environment continue to be adequately protected.

5/26/94
Date

Peter H. Kostmayer
Regional Administrator
Region III

RECORD OF DECISION
TABLE OF CONTENTS

RECORD OF DECISION
HRANICA LANDFILL SITE

DECISION SUMMARY

I. SITE NAME, LOCATION AND DESCRIPTION

The Hranica Landfill Site comprises 15 acres, and is located approximately 21 miles north of Pittsburgh and just south of the village of Sarver on Ekastown Road, Buffalo Township, Butler County, Pennsylvania (Figure 1). The Site was used as a landfill, drum disposal, and incineration facility.

The Site is located in a rural area in southern Butler County near Route 28. It is surrounded by orchards, corn fields, and wooded areas. Buffalo Township covers 23.9 square miles and has a population of approximately 6,600 people. It is estimated that 1,000 people reside within a one-mile radius of the Site, 4,000 people reside within a two-mile radius, and 10,000 reside within a three-mile radius. The nearest offsite, private drinking well is approximately 2,000 feet from the Site boundary.

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

Between 1966 and 1974, William Hranica and his brother, Joseph, owned and operated a facility, which accepted both municipal and industrial wastes. The initial waste disposal methods for industrial wastes were open incineration and surface impoundment storage. However, in or around 1968, the practice of incinerating waste was temporary halted at the request of the Butler County Health Department because of air pollution problems. Mr. Hranica then disposed of the liquid wastes by direct discharge into unlined surface impoundments. Within five weeks of applying wastes to surface impoundments, an adjacent property owner detected contamination in a spring on his property. Upon discovery of the contaminated spring, the Pennsylvania Health Department ordered Mr. Hranica to stop disposing of liquid wastes into unlined surface impoundments.

Mr. Hranica abandoned surface impoundment disposal and began to incinerate the wastes for a second time in large metal vats. Mr. Hranica then applied to the Pennsylvania Health Department in September, 1970 for permission to dispose of liquid wastes by a method designed by Mr. Hranica which consisted of burning wastes in a twin tank pit with air vents. However, the Pennsylvania Health Department denied Mr. Hranica's request and requested him to submit a satisfactory control plan by October, 1970. Mr. Hranica did not submit the required control plan but did continue to operate his disposal practices utilizing incineration. Mr. Hranica disposed of the residual ash from the incineration process in unprotected piles on the Site and continued to stage numerous drums of waste on the Site until sometime in 1974.

<Figure>

In April 1981, a Site Investigation was performed by a Field Investigation Team under contract to the EPA. The results of surface water samples, including spring discharges and landfill seepage, collected during this investigation indicated the need for further study. A separate Preliminary Investigation at the Site conducted by PPG Industries, Inc. (PPG) also confirmed the presence of contamination. The Site Investigation Report indicated that the Hranica Site received paint and solvent wastes from the PPG plant in Springdale, Pennsylvania, and from the PPG Research and Development Center in Allison Park, Pennsylvania. The Hranica facility also received plating wastes, metal sludges, and waste oils from the Aluminum Company of America (ALCOA) facility in Logans Ferry, Pennsylvania.

The Hranica Site was listed on the EPA's National Priorities List (NPL) on September 8, 1983. The Site was listed as #123 out of 418 sites on the NPL at that time. The Hazard Ranking Score (HRS) for the Site was 51.94 on a scale from 0 to 100. After the Site's inclusion on the NPL, PPG and ALCOA contracted D'Appolonia Waste Management Services, Inc. to perform removal activities at the Site. The removal activities were financed by ALCOA and PPG, and were done according to a Consent Agreement with PADER. These activities were performed during 1983 and 1984 and involved the removal and ultimate disposal of more than 19,200 drums and 4,000 cubic yards of visibly contaminated soil. Three large tanks containing oils and paint sludges were also emptied, and their contents were incinerated at an offsite disposal facility. The incinerator ash was then consolidated into a 2.5-acre area located at the southern portion of the Site. After these activities were completed, that portion of the Site was capped with natural clay, graded, and revegetated to prevent or minimize infiltration, storm runoff, and erosion.

Following the completion of these removal activities, additional testing of the ground and surface water was performed by PPG. The collected data were summarized by International Technology Corporation (IT) in a Comprehensive Site Investigation Report, dated January 30, 1987, and then revised July 27, 1987. The results of this investigation indicated that residual contamination was still present at the Site. Therefore, EPA and PPG entered into a Consent Order on March 13, 1987 requiring that PPG conduct a Phase II Comprehensive Site Investigation, deemed to be equivalent to a Remedial Investigation (RI), an Endangerment Assessment

(EA), and a Feasibility Study (FS) for the Site.

The Draft RI/EA Report was submitted to EPA and PADER in September of 1989. Based on comments received from EPA and PADER, the report was revised and resubmitted on April 10, 1990. The FS Report, dated February 1990, was submitted to the EPA and PADER for comment. The FS Report was also revised and was then resubmitted in May 1990.

A ROD for the OU1 was issued by EPA on June 29, 1990. OU1 addressed the contaminated soils that still remained onsite. The remedy selected by EPA in the ROD consisted of: an eight-foot fence around the entire perimeter of the Site to prevent trespassing; a long-term ground water monitoring program of both on- and offsite wells; placement of a soil cover consisting of two feet of clay and one foot of topsoil on top of the remaining areas of lead-contaminated soils, and deed restrictions to prevent the soil cover from ever being disturbed and to prevent the development of wells onsite.

A Consent Decree to perform the Remedial Design and Remedial Action (RD/RA) for OU1 was signed by ALCOA and PPG in June of 1991. The Remedial Design was started in February, 1992 and the Final Design was approved on March 17, 1993. The Remedial Action began in June, 1993 and was completed in September, 1993. The Site is now completely fenced, and a Consent Decree with the property owner to record the deed restrictions has been signed. Approximately 3000 truckloads of soil were placed onsite during the Remedial Action. A five-acre soil cover was placed on the former disposal area and the adjoining hillside. This soil cover has also been graded and seeded.

III. COMMUNITY RELATIONS SUMMARY

In accordance with Sections 113 and 117 of CERCLA, 42 U.S.C. [Para][Para] 9613 and 9617, EPA issued a Proposed Plan on February 25, 1994. The Proposed Plan and the technical documents upon which it is based were made available to the public by maintaining copies in the Administrative Record for the Site. The Administrative Record is kept at the two locations listed below:

Public Reading Room
EPA Region III
841 Chestnut Street
Philadelphia, PA

and

Buffalo Township Municipal Building
109 Bear Creek Road
Sarver, Pennsylvania

The notice of availability for the documents was published in both the Valley Dispatch News and the Butler Eagle on February 25, 1994. A public comment period was held from February 25, 1994, through March 26, 1994. Additionally, a public meeting was held at 7:00 P.M. on March 8, 1994 at the Buffalo Township Municipal Building. At this meeting, representatives from EPA and PADER answered questions about the Site and the ground water beneath it. One written comment, a letter from PADER dated March 25, 1994, was received during the public comment period. The Responsiveness Summary is based on oral comments received from the public during the March 8th public meeting, and the letter from PADER. The above actions satisfy the requirements of Section 113(k) and 117 of CERCLA, 42 U.S.C. Sections 9613(k) and 9617. A transcript of the meeting was maintained in accordance with Section 117(a)(2) of CERCLA, 42 U.S.C. [Para] 9617(a)(2). This decision document presents the selected remedial action for Operable Unit #2 for the Site chosen in accordance with CERCLA, and to the extent practicable, the NCP.

All documents considered or relied upon in reaching the remedy selection decisions contained in this Record of Decision are included in the Administrative Record for the Site and can be reviewed at the information repositories.

IV. SCOPE AND ROLE OF THE OPERABLE UNITS

The Site has been divided into two operable units.

1. Operable Unit #1

Operable Unit #1 (OU1) consisted of the onsite soils which had concentrations of lead of 300 parts per million (ppm) or greater. The Site-specific background lead level range is from 9-299 ppm. OU1 consisted of the soils where the lead concentration was determined to be above the background range. The soil areas, defined by OU1, posed a threat to human health and the environment prior to the Remedial Action in 1993 because of the risks associated with dermal contact or ingestion of these soils. The

purpose of the OU1 Remedial Action was to prevent incidental dermal contact with or ingestion of contaminated soils.

2. Operable Unit #2

Operable Unit #2 (OU2) is the onsite and offsite ground water. A ground water verification study, which is further explained on Page 8 of this ROD, was conducted to determine if any remediation of this operable unit was required. A focused Risk Assessment of the ground water data was then done to determine if the ground water beneath, or adjacent to, the Site posed a threat to human health or the environment.

V. SUMMARY OF SITE CHARACTERISTICS

The 1990 population for Buffalo Township was estimated to be 6,600. The township occupies 23.9 square miles, of which approximately 25% is under agricultural use. Corn fields border the Site to the north, west, and east, and orchards border the Site to the south. The Site sits at the end of an east-to-northeast-trending ravine. A small unnamed tributary of Little Bull Creek discharges intermittently onsite through this ravine.

The flow through the ravine originates from surface runoff and infiltration/seeps from the Site. A sub-basin drainage divide is marked by a flat hilltop which encircles the ravine except on the northeast. To the west of the Site, an unnamed tributary of McDowell Run flows south through a narrow, steep valley. There are no environmentally-sensitive areas, such as wetlands or parks, in the immediate vicinity of the Site. Similarly, there are no endangered species or critical habitats located near this Site.

Geologically, the Site is located in the west-central part of the Allegheny Plateau Physiographic Province and is underlain by sedimentary rocks of Pennsylvanian Age. Bedrock at the top portion of the Site consists of medium-grained sandstone. These sandstones are probably the bottom of the Morgantown Sandstone Member. In the lower portions, bedrock consists of grey and red Birmingham Shales and claystones. This layer also contains interbedded reddish shales, locally called Pittsburgh Red Beds.

Ground water flows through the Site through three water-bearing units contained in three different geological layers: (1) The shallow Morgantown Sandstone unit is 15 to 60 feet thick throughout the Site. The shallow water-bearing unit appears to be a perched system with limited recharge and storage capacity. The unit discharges through seeps and springs, and because of its low productivity, it is unlikely to ever be used as a residential water supply. (2) The Birmingham Shale/Pittsburgh Red Beds layer is a semi-confined, water-bearing unit at a depth of 70 feet, which flows to the east toward Little Bull Creek, Bull Creek, and the Allegheny River. This unit is also considered unproductive, and therefore is not likely as a water supply source. (3) The Saltsburg/Buffalo Sandstone is an apparently confined water-bearing unit at a depth of 180 feet. This water-bearing unit flows to the southeast, discharging to the Allegheny River, and provides ground water to offsite residential wells that are not served by local water authorities. Although this lower aquifer has not been classified, EPA believes that it has Class II characteristics, which means that it could be used as a water supply.

NATURE AND EXTENT OF CONTAMINATION

Previous removal activities at the Hranica Landfill Site resulted in the removal of over 19,000 drums and 4,000 cubic yards of contaminated soils. A Remedial Action has also been completed at the Site. The most recent studies revealed that elevated levels of organic and inorganic contaminants are still present at the Site. The primary contaminants of concern include lead and benzene. The most contaminated portion of the Site is the southern portion, near the ash mount, which is the where most of the drums were stored (Figure 2).

<Figure>

Ground water analyses revealed volatile organic compounds at elevated levels in the shallow, perched water-bearing unit below the ash pit area (MW-3S). However, this water-bearing unit is not used as a water supply source and is unlikely to be used as such in the future. Onsite wells in the deeper aquifers indicate minimal contamination. None of the ground water samples taken from domestic wells exhibited elevated levels of site-related compounds. In addition, there is minimal degradation of the surface water quality in the Site area. Based on available information, it is believed that offsite contaminant migration in the deep and intermediate aquifers has not occurred to any significant extent. Levels of contamination are decreasing over time and therefore it is projected that no significant contamination of the deep and intermediate aquifers will occur in the future.

GROUND WATER VERIFICATION STUDY

The primary objective of the verification study was to gather sufficient ground and surface water data

at the Site and the surrounding vicinity to assess the need for remediation, if any, of the ground water. No air or soil samples were collected as part of this study for OU2. Onsite monitoring wells, as well as offsite residential wells, were sampled for four consecutive quarters. Other objectives of this study were to evaluate variations in water quality, to select monitoring wells for the long-term ground water monitoring program, and to provide information necessary for the design and placement of additional long-term monitoring wells if required.

The verification study was performed during the period from April 1992 through January 1993, as outlined in the RD work plan. The study consisted of four rounds of sampling and analysis spaced three months apart. Sampling was done in all four seasons of the year, and samples were collected from existing onsite ground water monitoring wells, onsite and offsite surface water (i.e., streams, ponds, seeps, and springs) locations, and nearby domestic wells as described in Table 1. The sample locations were generally the same as those used to study the ground water during the RI for OU1. The sampling program was designed to account for the seasonal ground water fluctuation and discharge from ground water systems in response to the relative amounts and rates of recharge.

A. GROUND WATER MONITORING WELL SAMPLING

Only eight of the ten cluster wells installed in 1988 and three of the shallow wells installed in 1982 contained sufficient water to obtain samples. No additional monitoring wells were drilled for this ground water study. Ground water monitoring wells MW-1S and MW-2D were not sampled because they were either completely dry or had an insufficient amount of water to perform sampling.

Table 1
Sample Location Descriptions
Verification Study
Hranica Landfill Site
Butler County, Pennsylvania

Sample Identification	Location
DW-1	113 Hranica Drive - well at outside spigot
DW-2	Lonesome Hollow Lane off Howes Run - well at kitchen sink
DW-4	143 Harvey Road - well at kitchen sink
DW-5	238 Ekastown Road - well at outside spigot
GW-3, 4, and 7	Pre-existing shallow monitoring well
MW-1S, 11, and 1D	Cluster Well Set 1
MW-21 and 2D	Cluster Well Set 2
MW-3S, 31, and 3D	Cluster Well Set 3
MW-41 and 4D	Cluster Well Set 4
SW-1	Spring box (120-A Hranica Drive)
SW-2	Intersection of ravine with unnamed tributary of McDowell Run
SW-3	Upstream of SW-2
SW-4	Upstream of SW-3
SW-5	Upstream of SW-4
SW-6	Ponded water near Cluster Well Set 1
SW-7	spring house
SW-8	spring (i.e., square reservoir)
SW-9	pond
SW-10	Oak tree seep on adjacent property
SW-11	Unnamed tributary of Little Bull Creek
SW-12	Spring at sink in Ashland service station (264 Ekastown Road)
SW-13	Little Bull Creek at bridge (288-A Ekastown Road)

Therefore, 11 of the 13 existing ground water monitoring wells were sampled during each round. The ground water appears to be most affected in the shallow perched water directly underneath the former ash pit area. The water in this perched zone is not used as a water supply and is not likely to be used as such in the future. The residents around the site are either connected to a public water supply or utilize a deeper, more productive aquifer for their water. Some of the onsite monitoring wells situated within the intermediate and deep aquifer systems still exhibit low concentrations of a few contaminants. Contaminants detected included volatile organic compounds such as toluene, xylene and ethylbenzene.

B. DOMESTIC WELL SAMPLING

Subsequent to performance of the RI, the local municipality installed water lines along Ekastown Road; therefore, some of the homeowners removed their wells from service (e.g., DW-3,). Four of the five domestic wells were accessed and sampled during the verification study with three wells (i.e., DW-2, DW-4, and DW-5) being sampled a total of three rounds each.

Alternate domestic well sample locations which would provide relevant data were evaluated but could not be found due to current availability of the municipal water supply. The total number of domestic wells in the vicinity of the Site is gradually decreasing as more homeowners hook up to the public water system. Prior to purging, any residential water purification and/or softening equipment was disengaged. Domestic ground water adjacent to and downgradient from the Site does not display any significant contamination.

C. SURFACE WATER SAMPLING

All of the 14 surface water locations were sampled during each of the four rounds. Surface water includes streams and ponds, as well as spring and seep discharges at a variety of locations near the Site. Surface water samples were collected using random grab sampling techniques. The procedure for stream sampling consisted of beginning at the farthest downstream location and proceeding upstream. Spring and seep samples were obtained from natural surface discharge points. Static water bodies were sampled from the bank so as not to disturb the sediments. Surface water samples from streams and ponds adjacent to and downgradient from the Site do not display any significant contamination.

VI. SUMMARY OF SITE RISKS

The scope of the Risk Assessment was limited to addressing the human health risks related to potential use of contaminated ground water by offsite residents downgradient of the landfill. The results from the four deep wells, which were used for the Risk Assessment, are described in Table 2. The Risk Assessment is therefore considered focused in that only the ground water pathway, and not other potential exposure pathways, was evaluated and quantified.

The scenario addressed in the Risk Assessment was potential future use of potable water supplies that may become contaminated by the migration of landfill constituents in the ground water. An exposure pathway is the course that a hazardous agent takes from a source to a receptor via environmental carriers or media. An exposure route is how the transfer occurs, i.e., by inhalation, ingestion or dermal contact. For an exposure pathway to be complete it must consist of four elements: (1) a source and release mechanism, (2) a transport medium for released contaminants, (3) a point of contact with the contaminated medium, and (4) intake routes at the point of contact by a receptor. The Risk Assessment emphasized the deep wells onsite because the deep aquifer is the aquifer used by the residents in the vicinity of the Site who are not connected to the public water system.

The main contaminants of concern in the ground water at this Site are lead and benzene. These compounds are present in elevated concentrations onsite, and both are hazardous to human health and the environment. Carcinogenic and non-carcinogenic risks presented by these contaminants were calculated for the ground water pathway. The ground water data for lead and benzene which were utilized to evaluate risk are described in Table 3. Risks were calculated both for current uses and potential future uses of the property by a defined population (i.e., offsite residents).

Excess lifetime cancer risks for the Site were determined by multiplying the daily intake of chemicals from the ground water pathway by the cancer potency factors. These risks are probabilities expressed in scientific notation (i.e., 1E-6). An excess lifetime cancer risk of 1E-6 indicates that an individual has a one in a million chance of developing cancer as a result of site-related exposure to a carcinogen over a 70-year lifetime. The EPA recommended upper limit for lifetime cancer risks is between 1E-4 and 1E-6. However, the point of departure, as described in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), is considered to be 1E-6. Cancer risks from the ingestion of contaminants in the groundwater were estimated at 9.77E-7 which is slightly less than one incremental cancer case per one million exposed individuals.

<Figure>
<Figure>
<Figure>

All concentrations are expressed in parts per billion (ppb).

The 95% Upper Confidence Limit (UCL) is derived from the mean, or average concentration of a contaminant actually detected in the ground water at the Site. The 95% UCL exceeds the true mean or average sample 95% of the time, and is therefore a conservative estimate of the mean.

*EPA has not established an MCL, Reference Dose or Carcinogenic Slope Factor for lead, but it was evaluated using the Integrated Uptake Biokinetic Model. The Model was used to estimate the potential impacts to children that could result from ingestion of lead reported in the ground water at the Site. The risks to these offsite residents from lead via the ground water pathway appear to be within the range normally considered acceptable.

As to the non-cancer effects, the calculated Hazard Index (HI) for both adult and child residents was zero. An HI greater than 1.0 is characterized as presenting an unacceptable noncarcinogenic risk. The HI is the measurement expressing the overall potential for noncarcinogenic effects posed by contaminants. The HI is the ratio between the average daily dose of a contaminant received by a human population and the reference dose. Reference doses have been developed by EPA for indicating the potential for adverse health effects from exposure to chemicals exhibiting noncarcinogenic effects. In conclusion, the risks associated with the ground water pathway are within an acceptable range, less than 1.0, and ground water remediation is not necessary.

VI. DESCRIPTION OF THE "NO ACTION" PREFERRED ALTERNATIVE

Under the "No Action" Alternative, EPA will not undertake any type of remedial action as there are no remaining Site-related risks which would warrant EPA to implement a remedial action. The previous removal and remedial actions, which were completed by contractors working for ALCOA and PPG, have remediated the Site so that the residual risk posed by the Site is below health-based standards and therefore does not warrant any further remedial action. However, ground water monitoring required by the OU1 ROD will be reviewed every five years in accordance with CERCLA [Para] 121(d) to assure that low-level concentrations of organic compounds remaining in onsite monitoring wells will not change so as to pose a risk to human health or the environment. A ground water monitoring program will be implemented in accordance with the ROD for OU1 to enable EPA to meet this requirement and to ensure Site conditions do not change so as to pose an unacceptable risk. Ground water monitoring will begin in the Spring of this year and sampling will be done twice a year. A total of ten rounds of data will therefore be collected prior to the first five year review.

The Commonwealth of Pennsylvania has expressed the opinion that the following Pennsylvania regulations are relevant and appropriate requirements for this operable unit remedial alternative: 25 Pa. Code Sections 264.97(i) and (j), 264.100(a)(9). These Pennsylvania regulations generally require remediation of contaminated ground water to background levels. While EPA expresses no opinion herein as to whether applicable or relevant and appropriate requirements apply to a no-action remedial alternative, EPA notes that the selected no-action alternative for OU2 will in fact achieve a reduction in contamination to background levels through natural attenuation and will therefore achieve the same level of control as that specified by 25 Pa. Code Sections 264.97(i) and (j) and 264.100(a)(9). Based on the reduction in the concentration of contaminants observed in site monitoring wells, it is estimated that contaminant concentrations should reach background levels within the next ten years. Table 4 depicts the historical rate of attenuation of ground water contamination at the Site. Levels of all contaminants show over 95% reductions from the earliest rounds of ground water sampling in 1982-83. Wells that were not drilled until 1988 have also shown significant reductions in the last six years. For example, Wells 2-I, 4-I, and 4-D have contaminants present in substantially lower concentrations than these same wells did during the 1988-89 sampling. The rate of reduction of contamination is not constant; it is higher in the more contaminated wells than it is in slightly contaminated wells. If the average rate of reduction is plotted, it is not a straight line plot, the concentrations approach the level of non-detection asymptotically.

The Commonwealth of Pennsylvania has also expressed the view that 25 Pa. Code [Para] 264.117 applies to the no-action alternative and has requested that EPA include a provision for groundwater monitoring for aperiod of thirty years or until it can be demonstrated that concentration levels of hazardous constituents have remained at background levels for a period of three consecutive years. EPA expresses no opinion as to whether applicable or relevant and appropriate requirements apply to a no-action remedial alternative. However, EPA notes that the groundwater monitoring program which will be conducted pursuant to the ROD for OU1 will comply with the requirements of 25 PA Code [Para] 264.117.

Documentation of Significant Changes

The alternative originally identified in the Proposed Plan is also the alternative selected in the ROD. There have been no significant changes made to the selected alternative in the time period between the issuance of the Proposed Plan on February 25, 1994 and the signing of the ROD.

Table 4

Hranica Landfill - Natural Attenuation Data

1. Highest Hits from 1982-1983 Data (2 Rounds of Sampling)

	GW-3	GW-4	GW-7
benzene	14	ND	5700
ethylbenzene	10	ND	15000
toluene	42	ND	24700
lead	260	30	220

2. Highest Hits from 1988-1989 Data (2 Rounds of Sampling)

	GW-3	GW-4	GW-7
benzene	<5J	<5J	<5J
ethylbenzene	ND	ND	350
toluene	<5J	<5J	<5J
xylene	ND	6	4400
lead	ND	ND	ND

3. Highest Hits from 1992-1993 Data (4 Rounds of Sampling)

	GW-3	GW-4	GW-7
benzene	ND	ND	3J
ethylbenzene	ND	ND	3J
toluene	ND	ND	ND
xylene	ND	ND	27
lead	8.1	12	7.9

All concentrations are expressed in parts per billion (ppb).
J means the contaminant was present but at a level
below the quantitation limit.

VIII. RESPONSIVENESS SUMMARY

The EPA established a public comment period from February 25, 1994 to March 26, 1994 on the Proposed Plan (which described EPA's Preferred Remedial Alternative) and other site-related information for the Hranica Landfill Site in Buffalo Township, Butler County, Pennsylvania. The Ground Water Verification Study and other site-related documents utilized by the EPA to select the No Action Alternative for Operable Unit #2 are included in the Site's Administrative Record file and have been available to the public since the beginning of the public comment period. A public meeting was held on March 8, 1994 and approximately 15 people were in attendance. A technical presentation by EPA at the meeting was followed by a short question and answer period. The only written comments received during the public comment period were from PADER.

The purpose of this Responsiveness Summary is to summarize significant comments, criticisms and new data received during the public meeting or in writing, and to provide EPA's responses to the comments.

This community relations responsiveness summary is divided into the following sections:

Section I. Overview: A discussion of the public's response to the No Action Alternative.

Section II. Background of Community Involvement and Concerns: A discussion of the history of community interest and concerns raised during remedial planning activities at the Site.

Section III. Summary of Significant Comments Received during the Public Comment Period and Agency Responses. A summary of comments or questions and the EPA responses categorized by topic.

Section I. Overview:

Comments received from the public suggest that area residents do not object to the No Action Alternative. The residents seem satisfied that response actions undertaken at the Site have adequately remediated the site. Some residents did have questions about the future sampling during the semi-annual monitoring of the ground water. The residents were informed by the EPA that the ground water monitoring program will be carried out twice a year for the next five years. All of these data will be analyzed in the five-year review to assure that human health and the environment are being adequately protected.

Section II. Background of Community Involvement and Concern:

The Site history dates back to 1957. Between 1957 and 1960, the landfill was first used as a disposal area for industrial waste, and between 1960 and 1973, industrial wastes were burned at the site. Public attention was first focused on the site in the late 1960's when contamination of springs on an adjacent farm was attributed to the disposal of waste liquids at the landfill.

A Preliminary Assessment of the Site by EPA was conducted in April, 1981 and the results of the Hazard Ranking System (HRS) ranked the Site for inclusion on the National Priorities List. On May 9, 1983, local residents met with representatives of PADER, PPG, ALCOA and D'Appolonia (the removal contractor) to discuss removal actions planned for the Site. In addition, an executive meeting with municipal, county, state, and federal officials was conducted by PADER to discuss the removal actions.

At a second meeting held on December 17, 1984 between PADER and the Buffalo Township Board of Supervisors, the Township expressed the need for an investigation of health related impacts, and a formal request by the Township for a cancer study was made on Decembers 27, 1984. In July, 1985, after analyzing cancer mortality data from the Pennsylvania vital statistics system for Buffalo Township and Butler County, the Pennsylvania Department of Health concluded that no substantial evidence of aberrant cancer mortality levels or patterns were detected in the data and the data did not indicate a need for further study or analysis.

A public meeting on the Proposed Plan for Operable Unit #1 was held on June 7, 1990. The public comments focused on individual contact with contaminated soil onsite and definition of organic and inorganic compounds. There were also several questions on the nature and extent of the ground water contamination.

Another public meeting was held on June 24, 1993, just prior to initiation of the Remedial Action for the contaminated soils. The different aspects of the Remedial Action were explained to the residents and this was followed by a short question and answer period. There were several questions about a small bridge on the road leading up to the Site. The bridge was reinforced as part of the Remedial Action to enable it to withstand the extra weight of the trucks loaded with soil.

Public comments on the meeting on March 8, 1994 focused on the ground water and the future ground water

monitoring program. The township supervisor stated that he had received no complaints from residents concerning the Site or the manner in which the Site was being remediated.

Section III. Summary of Major Comments Received during the Public Comment Period and Agency Responses.

1. Living Near the Site

Comment: A resident asked if the Site was still a threat to human health, and whether the nearby residents were in any way endangered by it.
EPA: The Site does not present a significant threat to human health or the environment through any possible exposure pathway. There were several organic compounds found at low levels in onsite monitoring wells in the most recent study of the ground water. However, the site-related contaminants are at such low levels that they do not pose a significant human health threat via the ground water pathway.

2. Offsite Migration of Contamination

Comment: A resident asked whether any site-related contamination was migrating offsite via the ground water and impacting nearby drinking water wells.

EPA: Although Site-related contamination is present at low levels in onsite monitoring wells, it is not migrating offsite and contaminating nearby drinking water wells. The recent ground water verifications studied included sampling five residential wells. The residential wells which were sampled did not show any site-related contamination.

3. Completion of the Remedial Action

Comment: A resident asked if the Remedial Action, which began in June, 1993, had been completed.

EPA: The Remedial Action for OU1 was completed in late September, 1993. However, O & M activities will occur periodically in the future. These activities include the groundwater monitoring program and also inspections of the Site to check that the fence and soil cover have not been disturbed in any way.

4. Future Ground Water Monitoring Program

Comment: PADER inquired about the length of the future ground water monitoring program.

EPA: Most of the onsite monitoring wells, as well as several offsite surface water locations, will be sampled twice per year for the next five years. After five years, EPA in consultation with PADER, will examine all ten sets of the data, and decide whether human health and the environment continue to be adequately protected by the remedy. As described on Page 31 of the ROD for OU1, this ground water monitoring program is part of the Operation and Maintenance (O & M) for the Site and will continue for a total of 30 years.

5. PADER Ground Water ARAR

Comment: PADER has expressed the opinion that the following Pennsylvania regulations are relevant and appropriate requirements for OU2: 25 Pa. Code Sections 264.97(i) and (j), 264.100(a)(9). These regulations generally require remediation of contaminated ground water to background levels.

EPA: EPA disagrees with this opinion, and does not consider the above regulations as relevant and appropriate requirements for this operable unit. See Page 15 of this ROD for a more detailed explanation.

6. Rate of Natural Attenuation in the Future

Comment: PADER also asked about the future rate of natural attenuation, and more specifically about the basis for the EPA estimate that it would take ten years for all contaminants to reach background concentrations.

EPA: The ten-year cleanup estimate is based on the historical rate of decrease in contaminant levels in the onsite monitoring wells over the last ten years. For example, between 1982 and 1988, the concentration of benzene at monitoring well GW-7 decreased from 5700 ppb to 5 ppb. This reflects a decrease of 949 ppb/year assuming a constant rate of decrease over the six-year period. Clearly, the rate of decrease is not constant, since over the four-year period from 1988 to 1992, the concentration of benzene in the same well decreased from 5 ppb to 3 ppb, which reflects a rate of decrease of 0.5 ppb/year. If this rate of decrease continues in the future, the concentration of benzene in this well should be 1 ppb in four years. Given that the rate of contaminant decrease will probably continue to diminish in future years, and that the Site has recently been disturbed by placement of the soil cover, it will

undoubtably take longer than four years for contaminant concentrations to reach 1 ppb, but it should take less than 10 years based on this analysis of historical data that are available for the Site.